

**REMARKS**

Claims 4-8, 10, 11, 13-26, 28 and 30-36 are pending in the present application.

The rejection of claims 4-8, 10-11, 13-26, 28, 30-31 and 32-36 under 35 U.S.C. § 112, second paragraph, has been withdrawn in view of the declaration of Dr. Li regarding the term "multi-effect triazole." The examiner has previously indicated that the claims are free of the prior art.

Claims 4-8, 10-11, 13-26, 28 and 30-36 remain rejected under 35 USC § 112, first paragraph, as failing to comply with the enablement requirement. Applicants respectfully traverse this rejection.

Independent Claim 31, from which each remaining claim depends either directly or indirectly, is directed to "a method for producing a transgenic cotton plant. That method comprises specific steps which can be readily carried out by one of skill in the art upon having the benefit of the present disclosure including: (a) preparing explants from fibrous roots of cotton seedlings cultured in medium comprising about 0.05 mg/l to 0.2 mg/l of multi-effect triazole; (b) culturing said root explants in medium comprising a plant hormone selected from 2,4, dichlorophenoxyacetic acid and  $\alpha$ -naphthalene acetic acid to induce callus formation; (c) transforming said callus with *Agrobacterium tumefaciens* comprising a DNA encoding a chimeric gene of interest to effect the stable transfer of said chimeric gene to the genome of cells comprising the callus tissue; (d) inducing somatic embryos from said transformed callus; and (e) regenerating whole transgenic cotton plants having said gene of interest from said somatic embryos.

The novel method uses fibrous roots of cotton seedlings as an explant. It further provides culture media containing specific growth regulators and plant hormones for use in the specific steps of the method. Culture medium comprising multi-effect triazole

is used to prepare the fibrous root explants. Culture medium comprising a plant hormone selected from 2, 4 dichlorophenoxy acetic acid and  $\alpha$ -naphthalene acetic acid is used to induce callus formation from those fibrous root explants. Finally, examples 3 and 4 of the specification provide actual working examples of the claimed method, in which transformed cotton plants were obtained.

"As a matter of Patent Office practice . . . a specification disclosure which contains a teaching of the manner and process of making and using the invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented *must* be taken as in compliance with the enabling requirement of the first paragraph of § 112 *unless* there is reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support." *In re Marzocchi*, 439 F.2d 220 (CCPA 1971)(emphasis in the original.) Applicants respectfully assert that the actual working examples of the claimed method demonstrate that the method is enabled.


Applicants' observation on page 10, lines 1-2 of the specification that at the time the invention was made *Agrobacterium* transformation was considered in the art to be heavily variety dependent is apparently cited as evidence that the method of the present application are not enabled. However, applicants explain that the disclosed method is believed to have broad applicability to transformation of cotton varieties, as it overcomes or minimizes several problems associated with previous work relating to cotton transformation through the use of fibrous root explants, including breakthrough of non-transformed callus, poor explant growth, low transformation rate and poor somatic regeneration. Most importantly, they provide actual working examples which demonstrate that the method works.

A determination of lack of enablement under section 112, first paragraph is based on the evidence as a whole. (See MPEP 2164.05, particularly the last paragraph stating that the determination of lack of enablement is made based on the weight of the evidence.) Nothing in the assertions of the outstanding office action, the prior office actions, or the applicants' general description of the state of the art prior to the date the application was filed provides evidence to support a conclusion based on the evidence as a whole that practice of the method of claim 31 is not enabled, in view of the working examples of the application. Thus, applicants respectfully ask that the rejection of the pending claims under 35 U.S.C. § 112, first paragraph for lack of enablement be withdrawn.

Applicants believe the present claims are in condition for allowance and respectfully request a timely notice to that effect. Should additional issues arise that can be effectively dealt with in a timely discussion with applicants' representative, the examiner is respectfully asked to contact the undersigned so that the application can be quickly passed to issued.

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Respectfully submitted,

By   
Barbara Webb Walker  
Attorney for Applicants  
Registration No. 35,400  
ROTHWELL, FIGG, ERNST & MANBECK, p.c.  
Suite 800, 1425 K Street, N.W.  
Washington, D.C. 20005  
Telephone: (202)783-6040